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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/038,683

01/08/2002

Hitoshi Nitta

914-150

9031

7590

05/20/2004

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EXAMINER

NGUYEN, DUC M

ART UNIT

PAPER NUMBER

2685

DATE MAILED: 05/20/2004

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/038,683

Applicant(s)

NITTA, HITOSHI

Examiner

Duc M. Nguyen

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2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims **1-3, 5-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (Figure 7), hereafter **AAPA**, in view of **Satoh et al (US 6,643,527)**.

Regarding claim **1**, **AAPA** discloses all the claimed limitations (see Fig. 7) except for a control circuit for switching off the power supply to the transmission circuit based on the detection output voltage of the power supply. However, using a control circuit for stopping power supply to a transmission circuit when the supply voltage falls below a predetermined value would have been obvious to one skill in the art as disclosed by **Satoh** (see Abstract, and Fig. 6). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the above teaching of **Satoh** to **AAPA** for stopping power supply to a transmission circuit based on the detection output voltage of the power supply as claimed, in order to prevent the transmission circuit from operating abnormally.

Regarding claim **2**, the claim is rejected for the same reason as set forth in claim 1 above. In addition, it is clear that **AAPA** as modified would disclose a reference

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voltage circuit and a comparing circuit as claimed (see **Satoh**, Fig. 8 and col. 8, lines 4-24), in order to perform the switching on/off as discussed in claim 1 above.

Regarding claim **3**, the claim is rejected for the same reason as set forth in claim 2 above. In addition, although **AAPA** as modified fails to disclose the comparing circuit is a Schmidt trigger circuit, it is noted that the use of such Schmidt trigger circuit is well known in the art (Official Notice), for avoiding hysteresis. Therefore, it would have been obvious to one of ordinary skill in the art to further modify the above teachings of Satoh and AAPA for using a Schmidt trigger circuit as claimed, for utilizing advantages provided by the Schmidt trigger circuit such as avoiding hysteresis, obtaining stable output and reducing power consumption of the switching operation.

Regarding claim **5**, the claim is rejected for the same reason as set forth in claim 2 above. In addition, although **AAPA** as modified fails to disclose a switching regulator for the switching circuit, it is noted that the use of such switching regulator is well known in the art (Official Notice), for reducing current consumption. Therefore, it would have been obvious to one of ordinary skill in the art to further modify the above teachings of Satoh and AAPA for using a switching regulator as claimed, for utilizing advantages provided by the switching regulator such as reducing power consumption of the switching operation.

Regarding claim **6**, the claim is rejected for the same reason as set forth in claim 2 above. In addition, it would have been obvious to use an alarm circuit for notifying the power is turned off as disclosed by **Satoh** (see Fig. 7, block S16), so that an operator or user would be aware of the situation of the transmission device.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over **AAPA** in view of **Satoh** and further in view **Saito** (US 4,761,824).

Regarding claim 4, **AAPA** as modified would disclose all the claimed limitations, see claim 2 above, except for a timer circuit. However, using a timer circuit for determining whether a voltage drop is instantaneous due to interferences or extended due to battery/power supply deteriorations would have been obvious to one skill in the art as disclosed by **Saito** (see **Abstract, Fig. 2 and col. 3, lines 10-20**). Therefore, it would have been obvious to one of ordinary skill in the art to further incorporate the above teaching of **Saito** to **Satoh** and **AAPA** for providing a timer circuit as claimed, for stopping power supply to a transmission circuit only if the voltage has dropped below a low level for more than a prescribed length of time, in order to eliminate the undesired interruption of transmitted radio waves caused by instantaneous drops due to interferences.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Saito (US 4,912,774), Instantaneous voltage drop detector.

Hall et al (US 6,137,696), Switching regulator for power converter with dual mode feedback input and method thereof.

Kinoshita (US 5,287,014), Hysteresis circuit.

Scoones et al (US 6,215,286), Step-up/step-down switching regulator operation.

Oh (US 5,729,572), Transmitting and receiving signal switching circuit for wireless communication terminal.

Suzuki (US 6,256,520), Mobile communication device, power supply device and power supply method for mobile communication device, and data terminal connection modem card connectable to the mobile communication device.

5. **Any response to this action should be mailed to:**

Commissioner of Patent and Trademarks

Washington, D.C. 20231

or faxed to:

703-872-9314 (for formal communications intended for entry)

(for informal or draft communications, please label PROPOSED or DRAFT)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc M. Nguyen whose telephone number is 703-306-4531. The examiner can normally be reached on Monday-Thursday (9:30 AM – 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 703-305-4385. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Duc M. Nguyen

A handwritten signature in black ink, appearing to read 'Duc M. Nguyen', written in a cursive style.

May 14, 2004